REMARKS/ARGUMENTS

Claims 1-14 and 16-20 are resubmitted. Claims 1, 7, 12, and 20 are currently amended. Claims 21-26 are being canceled as being drawn to a non-elected invention. Claim 15 is being canceled without prejudice or disclaimer of the subject matter. No new claims have been added.

Claims 1-12 and 17-20 have been rejected under 35 USC 102(a) as being anticipated by Garcia et al., U.S. Patent Application Publication No. 20030170082 A1 ("Garcia"). Claims 13-16 have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Election/Restrictions

Applicants affirm the election without traverse to prosecute the invention of Group I, claims 1-20 made on February 10, 2006.

Allowable Subject Matter

Claims 13-16 have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Claim 12 has been amended to include the limitations of claim 15 and any intervening claims (there are none) and claim 15 has been canceled without prejudice or disclaimer of the subject matter. Claim 15 being allowable if rewritten to include all of the limitations of the base claim and any intervening claims, Applicants therefore respectfully submit that claim 12 and claims 13,14,

and 16-19, which are dependent from claim 12, are now in condition for allowance.

Garcia

Claims 1-12 and 17-20 have been rejected under 35 USC 102(a) as being anticipated by Garcia.

Claims 1, 7, and 20 have been amended, support for which can be found in the specification as originally filed, for example, at paragraphs **[024]**, **[025]**, **[026]**, and **[027]**, and in the claims themselves as originally filed.

While Garcia may disclose "a drill template (10), which includes a vacuum housing (11) with a skirt (16) having a contact surface (17)" as asserted by the Office action, Applicants respectfully submit that Garcia neither anticipates nor even makes obvious or suggests or motivates the present invention as claimed by the amended claims.

Regarding the contact surface 17, Garcia discloses:

> A seal or gasket 17 is preferably mounted around the bottom lip of the walls 13, 14 to aid in sealing the interface between the drilling bar 10 and the composite structure 100 or other work piece. The gasket 17 is preferably constructed of a foam rubber material with a nylon surface for increased durability. Rubber, silicone, or other soft and flexible materials could be used to construct the gasket. (paragraph **[0020]**).
>
> The interface edge is preferably lined with a gasket of foam rubber to prevent the escape of debris. (paragraph **[0010]**).
>
> The compressibility of the seal or gasket allows the interface to

seat against the drilling surface and conform to minor surface irregularities and imperfections. (paragraph **[0012]**).

The position of the drilling bar 10 is adjusted until the tooling pins 40 match preexisting holes in the aluminum tooling 102 and the gasket 17 seals over any irregularities on the surface of the work piece. The handles of the tooling pins 40 are grasped and tightened to secure the drilling bar 10 onto the composite structure 100 and compressing the gasket 17, leaving the operator's hands free for drilling. (paragraph **[0032]**).

The compressibility of the gasket 17 allows the interface to seat against the drilling surface and conform to minor surface irregularities and imperfections. (paragraph **[0034]**).

A drill template of the present invention, by way of contrast, does not seal by being soft, flexible, or compressible but rather by having the form of an exact fit to the mold line surface of the structure at the vacuum housing's CAD-formed contact surface, the form being maintained whether or not in contact with the structure as in claim 1 as amended; or by having the form of an exact fit to the exterior surface of the structure as a result of being formed by selective laser sintering according to the precisely specified CAD geometry used to form that exterior surface of the structure as in claim 7 as amended, or by having the form of an exact fit with the outside mold line surface of an aircraft fuselage structure prior to contacting that outside mold line surface of the aircraft fuselage structure as a result of being generated directly using CAD electronic data files of a CAD engineering solid model to conform to the CAD engineering solid model of that outside mold line surface of the aircraft fuselage structure as in claim 20 as amended, and thus no conformance to minor surface irregularities and imperfections upon contact with the structure is claimed, so that present invention exhibits principles of operation that are contrary to those of Garcia.

Therefore, it is seen that Garcia, contrary to anticipating the present invention, indeed teaches away from the present invention as claimed. Applicants submit, therefore that the section 102 rejections to claims 1, 7, and 20 as amended, and claims dependent from them, should be withdrawn.

Moreover, the present invention neither teaches nor claims either port seals (19) or thin metal plates (22) for use in conjunction with port seals (see Garcia, paragraphs **[0023]**, **[0024]**). By way of contrast to Garcia, the present invention does not claim any form of seal over its at least one drill bushing extending through the vacuum housing from a top surface to an interior surface of the vacuum housing as claimed by claims 1, 7, and 20 because the functions performed by seals over the bushing holes are not present in the present invention, and, thus, are neither taught nor claimed by the present invention. Thus, a further principle of operation of the present invention as claimed is contrary to that of Garcia. Therefore, Garcia further teaches away from the present invention as claimed.

Furthermore, Garcia teaches, in regard to the construction of the drill template of Garcia:

> Preferably the drill plate is constructed mostly of a composite material that is easer to lift and position on the structure due to its light weight. (paragraph **[0011]**).
>
> Attached to the bottom edges of the walls 12, 13 is a lip 16 that is placed against the composite structure 100 during drilling to form a fully or partially sealed interface. (paragraph **[0020]**).
>
> The body 11 of the drilling bar 10 is preferably constructed of a lightweight synthetic material, such as plastic or fiberglass, or more preferably , carbon fiber. (paragraph **[0023]**).
>
> The thinness and geometry of the metal plate 22, as opposed

> to a mostly metal body 11, reduces the weight added to the drilling bar 10. The entire drilling bar 10 could be metal, however. The use of the flexible magnetic material also has the advantage of adding little weight to the drilling bar 10 and is easily removed and replaced while still providing a firm seal against the escape of dust and debris. (paragraph **[0024]**).
>
> In addition, the handles 40 and tooling pins 41 of the drill plate 10, along with its lightweight construction, allow the drill plate to be easily positioned and secured with subsequent "hands free" operation. (paragraph **[0034]**).

Applicants respectfully submit, in view of the above, that Garcia is completely silent with regard to fabricating the drill template using one of selective laser sintering, fused deposition modeling, or stereo-lithography as claimed by claim 1 as amended, by using selective laser sintering as claimed by claim 7 as amended, or integral fabrication by being generated directly using the CAD electronic data files of a CAD engineering solid model as claimed by claim 20 as amended. Indeed, the use of composite material, lightweight synthetic material – such as plastic, fiberglass, or carbon fiber – and metal, as suggested by Garcia, are incompatible with the claimed fabrication techniques that generate the drill template directly from electronic data files – such as selective laser sintering, fused deposition modeling, and stereo-lithography. Therefore, Garcia further teaches away from the present invention.

Additionally, the present invention does not teach attaching the skirt or contact surface to the vacuum housing of the drill template, does not teach forming a vacuum seal using parts that are easily removed and replaced, and does not claim a "fully or partially sealed interface." By way of contrast, the present invention has a vacuum housing with a CAD-formed contact surface

that is integral with and formed of the same material as the vacuum housing, indeed, formed when the vacuum housing is formed in the same process of either selective laser sintering, fused deposition modeling, or stereo-lithography as claimed by claim 1, or selective laser sintering as claimed by claim 7, or any similar process that generates parts directly from CAD electronic data files of a CAD engineering solid model as claimed by claim 20. Thus, the present invention achieves a vacuum seal with the work piece structure by being pre-formed to the shape of that structure and not by deforming upon contact with the structure or aircraft part itself using foam, softness, flexibility, or compressibility in order to conform to the shape of the structure. Thus, it is an unexpected result, and contrary to the principles of operation of Garcia, to use a hard laser-sintered material (which, inherently, must be hard enough to support the rigidity required for the drill template to maintain its very specific shape, and therefore is neither soft, flexible, nor compressible) to achieve a vacuum seal using the CAD-formed contact surface of the present invention, which, being an integral part of the vacuum housing, is made of the same hard, rigid material as the vacuum housing itself. Therefore, Applicants submit that Garcia teaches away from the present invention, and neither anticipates nor even makes obvious the present invention as claimed.

Therefore it is believed that the section 102 rejections to claims 1, 7, and 20 as amended should be withdrawn, and that the claims are now in condition for allowance.

CONCLUSION

Applicants would like to thank the Examiner for the notice of allowable subject matter. Reconsideration and withdrawal of the Office Action with respect to claims 1-14 and 16-20 are requested. Applicant respectfully requests

that a timely Notice of Allowance be issued in this case.

In the event the examiner wishes to discuss any aspect of this response, please contact the attorney at the telephone number identified below.

☒ The Commissioner is hereby authorized to charge payment of the following fees with this communication or credit any overpayment to Deposit Account No. 50-0851:

☒ Any filing fees under 37 CFR 1.16 for the presentation of extra claims.

Respectfully submitted,

By: /David Bowls/
David Bowls, Reg. No. 39,915
Michael A. Shimokaji, Reg. No. 32,303

SHIMOKAJI & ASSOCIATES, P.C.
8911 Research Drive
Irvine, CA 92618
949-788-9961